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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/334,193	06/16/1999	DENNIS J. O'SHAUGHNESSY	1375P1	5063

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PPG INDUSTRIES INC  
INTELLECTUAL PROPERTY DEPT  
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PITTSBURGH, PA 15272

EXAMINER

MCNEIL, JENNIFER C

ART UNIT	PAPER NUMBER
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1775

14

DATE MAILED: 05/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

09/334,193

Applicant(s)

O'SHAUGHNESSY, DENNIS J.

Examin r

Jennifer McNeil

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 February 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34,36-38 and 40-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### Claim Objections

Claims 3, 4, and 29 are objected to because of the following informalities: Claims 3 and 4 use the phrase "article stack" in the preamble. Should this be --coated article--? Claim 29, line 9, should it read, "a zinc oxide, tin oxide film"? Appropriate correction is required.

### Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-34, 36-38, and 40-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 22, 23, 26, 29, and 36 use improper alternative language, specifically in reference to the protective layer groupings. See MPEP 2173.05(h). It is not clear what the choices are for the two films that are to make up the protective layer.

Claim 41 is confusing. What is the protective layer made of? Is the dual layer protective film made of a metal layer and a silicon layer? Or is it a metal oxy material and a silicon oxy material? Or are the choices between the two? For instance, may the two layers be one of a metal and one of a silicon oxy material? The alternative language is confusing.

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### **Claim Rejections - 35 USC § 102**

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 36, 38, and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Finley et al (US 5,059,295). Finley teaches a multiple-layer coated article with layers in the following order and beginning with a glass substrate, a dielectric layer of mixed tin and zinc oxides, a layer of titanium, a layer of silver, another layer of titanium, and a layer of mixed tin and zinc oxides, and finally a layer of titanium oxide. The primer layers of titanium may be substituted with zirconium or chromium (col. 7, lines 16-20).

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Finley et al (US 5,059,295) in view of Arbab et al (EP 0803481A2). Finley et al teach the low emissivity window stack as discussed above but do not include additional dielectric and infrared reflective layers. Arbab et al teach high transmittance, low emissivity coated articles and include multiple dielectric and infrared reflective layers in the stack, referred to as double stacks. This results in an article with an improved shelf-life. As it is shown by Arbab et al that stacks having multiple dielectric and infrared reflective layers are well known in the art, it would have been obvious to one of ordinary skill in the art to provide Finley et al with additional layers to provide an article with improved shelf-life.

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### **Allowable Subject Matter**

Claims 1-34, and 42-45 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

### **Response to Arguments**

Applicant's arguments filed February 11, 2002 have been fully considered but they are not persuasive. Applicant has attempted to amend the claims to overcome the 112(2) deficiencies. However, as stated above, the claims still reflect alternative language indefiniteness. It is not clear what applicant intends to be the choices for the two films of the protective layer. Is one metal and the other silicon? Is one supposed to be chosen from the first set of choices (ending with "silicon containing films") and the other film chosen from the remaining alternatives? Or is the whole group a possibility for both films? The use of the word "and" multiple times in the grouping is particularly confusing. Is this the ending of an alternative grouping? Please clarify.

Regarding applicant's amendment of claim 36 to remove "titanium" as a choice for a protective layer, the reference teaches that zirconium may be used in the place of titanium.

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on

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the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer McNeil whose telephone number is 703-305-0553. The examiner can normally be reached on Monday through Friday, 9:30AM-6:00PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 703-308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



JCM  
May 19, 2002

Jennifer McNeil  
Examiner  
Art Unit 1775

  
DEBORAH JONES  
SUPERVISOR, ART UNIT 1775